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116

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
Division of Forest Insect Investigations

FOREST INSECT CONDITIONS

BIG PINES - WRIGHTWOOD RECREATIONAL AREA
MAY 1953

Appraisal Survey

Introduction

During the early spring of 1953, C. J. Wray, B. E. Wickman and P. A. Bourgeois from the Forest Insect Laboratory conducted an appraisal survey in the Big Pines-Wrightwood Recreational Area on the Angeles and San Bernardino National Forests. This area of about 10,000 acres (see attached map) is located 17 miles west of Cajon Pass on the road to Valyermo, and is very important as a recreational center, receiving heavy use during all seasons of the year by the public and organizational camping.

Only minor infestations of forest insects were noted before 1948. Since then, precipitation has been well below normal and a decided build-up of beetles has occurred. In the spring of 1950, $500 was spent near Big Pines felling and burning flathead-infested Jeffrey pine. In 1951, $1000 was spent using the same method of control on sugar pine against the mountain pine beetle (Dendroctonus monticolae). It was felt that little or no actual insect control was accomplished because so few trees were treated.

There have been two types of disturbances in the Big Pines area, clearing for a ski lift at Holiday Hill and Blue Ridge, and a fire that burned over part of Table Mountain several years ago.

Insect and Host Species

The insect problem in the area stems from the activities of the following species: the California flatheaded borer (Melanophila californica), which has attacked Jeffrey pine; the fir engraver (Scolytus ventralis), which is found in white fir; the mountain pine beetle (Dendroctonus monticolae), which has caused some loss of sugar pine. Some top killing of Jeffrey pine has been caused by the Oregon pine engraver (Ips oregoni).

In an adjoining area, the big cone spruce is dying along the Big Rock Creek drainage. Scolytus oregoni was collected from these trees, but it has not been determined that this engraver is responsible for the loss of this relatively insect-resistant tree.

Status and Extent of Infestation

The survey showed that the present infestation is characterized by heavy epidemic loss in Jeffrey pine, with somewhat lighter loss in sugar pine and white fir.

In order to determine the extent of the damage, a loss cruise was made of the area affected, in which circular 1/2-acre sample plots were used. These plots were established at 5-chain intervals on lines spaced 40 chains apart. This method of sampling resulted in coverage of approximately 2-1/2 per cent of the area. The method was designed to yield an estimate of total loss subject to a sampling error of 25 per cent at the 68 per cent confidence level.

The estimated volume (Scribner) of currently infested trees (i.e. those with developing broods and fading foliage) and abandoned trees as determined from this loss survey is shown in the following tabulation:

Tree Species	Infested		Abandoned		Total	
	Per Acre (bd.ft.)	Total (M bd.ft.)	Per Acre (bd.ft.)	Total (M bd.ft.)	Per Acre (bd.ft.)	Total (M bd.ft.)
Jeffrey Pine	425	4165 ± 794	569	5576 ± 794	994	9741 ± 1588
Sugar Pine	29	284 ± 59	188	951 ± 548	217	1235 ± 607
White Fir	151	1480 ± 461	97	1840 ± 441	248	3320 ± 902
Total	605	5929 ± 1314	854	8367 ± 1783	1459	14,296 ± 3097

The above figures represent the amount salvable on a gross scale basis. Defect in abandoned trees is expected to run about 50 per cent. It is worth noting here that some question has arisen as to whether the loss data do not paint a more alarming picture of the situation than actually exists in the area. A careful re-check of the field data has failed to show any serious errors in computation. Without making another loss cruise, there is no way of determining whether or not these doubts are justified.

Discussion and Recommendations

The greater proportion of the loss by far in the Wrightwood-Big Pines area is attributable to the California flatheaded borer. Satisfactory methods for combatting this insect through direct control measures remain to be developed. A more practical approach to the problem in lieu of direct control would be a cutting program designed to salvage the infested and dead timber. It is recommended that action be taken to achieve this end, and that the salvage program be combined with a sanitation-salvage cut to protect and improve the general condition of the stand.

Forest Insect Laboratory
Berkeley, California
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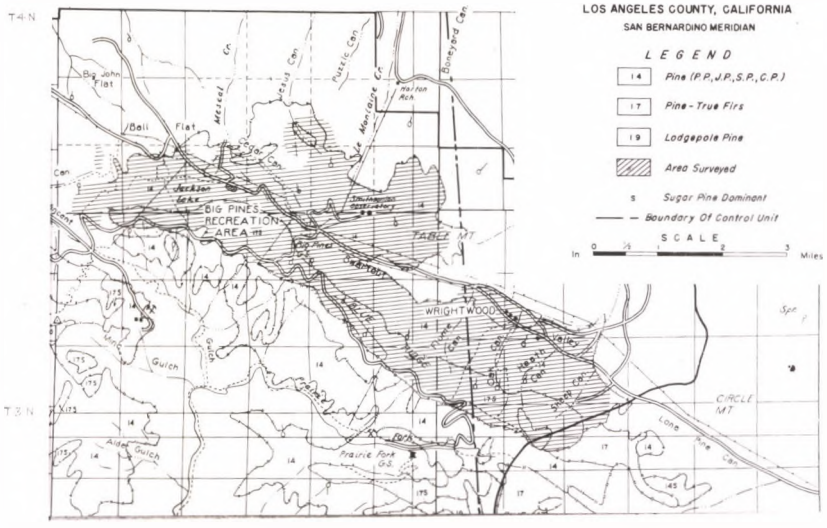
BERKELEY FOREST INSECT LABORATORY

BIG PINES INFESTATION AREA

LOS ANGELES COUNTY, CALIFORNIA
SAN BERNARDINO MERIDIAN



LEGEND

- 14 Pine (P.P., J.P., S.P., C.P.)
- 17 Pine - True Firs
- 19 Lodgepole Pine
- Area Surveyed
- s Sugar Pine Dominant
- Boundary Of Control Unit

SCALE
In 0 1/2 1 2 3 Miles